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Committee on the Peaceful Uses of Outer Space
Scientific and Technical Subcommittee
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Draft report

VIII. Space weather

1. In accordance with General Assembly resolution 70/82, the Scientific and Technical Subcommittee considered agenda item 11, "Space weather".

2. The representatives of Canada, China, Egypt, Germany, Indonesia, Japan, Nigeria, Pakistan, the Republic of Korea and the United States made statements under agenda item 11. During the general exchange of views, statements relating to the item were made by representatives of other member States.

3. The Subcommittee heard the following scientific and technical presentations:

(a) "An update on SCOSTEP activities", by the observer for SCOSTEP;

(b) "Real-time acquisition of plasmaspheric electron densities by a global network for space weather investigations", by the representative of Hungary;

(c) "National space weather strategy", by the representative of the United States;

(d) "CALLISTO and the e-Callisto network", by the representative of Switzerland;

(e) "Italian contribution to space weather", by the representative of Italy;

(f) "An international road map to advance scientific understanding of space weather, commissioned by COSPAR and ILWS", by the observer for COSPAR;

(g) "Space weather study and high-resolution observations of the Sun with ARKA small explorer", by the representative of the Russian Federation;

(h) "Global warming and negative impacts on Egypt", by the representative of Egypt.

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4. The Subcommittee had before it the following:

(a) Report on the United Nations/Japan Workshop on Space Weather: Science and Data Products from International Space Weather Initiative Instruments (Fukuoka, Japan, 2-6 March 2015) (A/AC.105/1096);

(b) A conference room paper entitled "Space weather workshop and second meeting of Space Weather Expert Group, 15 to 17 February 2016: Report on work and review of work plan of the Space Weather Expert Group" (A/AC.105/C.1/2016/CRP.17), submitted by the rapporteur of the Expert Group on Space Weather.

5. The Subcommittee noted that space weather was a shared concern and that it was imperative to build on current international cooperative efforts and for countries around the globe to participate in monitoring space weather events from space and the ground, in order to be able to understand the drivers of space weather and to mitigate its negative effects on space-based and ground-based technological infrastructure and on human lives. That required continuous space-based and ground-based measurements and focused research that would lead to improvements in the modelling and forecasting capabilities of space weather events over time.

6. The Subcommittee took note of the progress made to advance space weather capabilities at the national level, including through the development of national space weather strategies and action programmes to enhance space weather preparedness, and also took note of progress in building space weather information and forecast systems at the national, regional and international levels.

7. The Subcommittee noted with appreciation the work done by the Expert Group on Space Weather, under the leadership of Canada, as one of the important mechanisms at the global level for enhancing space weather capabilities, drawing on the best practices of the work of expert group C, on space weather, of the Working Group on the Long-term Sustainability of Outer Space Activities, as well as on the work completed within the Committee on Space Research (COSPAR)/International Living With a Star (ILWS) Space Weather Road Map. That work was vital for strengthening the overall reliability of space systems and the ability of such systems to respond to the impact of adverse space weather, which was one of the priorities of the UNISPACE+50 process.

8. At the 843rd meeting of the Subcommittee, the Rapporteur of the Expert Group on Space Weather presented the progress made in the Expert Group since its establishment at the fifty-second session of the Subcommittee, in 2015, and the progress made during the second meeting of the Expert Group, which had been held on the margins of the Subcommittee's current session. The Rapporteur referred to the detailed written report of the work of the Expert Group, which also contained a review of its workplan (A/AC.105/C.1/2016/CRP.17).

9. The Expert Group noted the increasing number of Member States conducting risk assessments and socioeconomic studies on the effects of space weather and recognized the value to Member States in undertaking those assessments to inform their future actions to protect critical infrastructure. The Expert Group also examined the COSPAR-ILWS road map team report entitled "Understanding space weather to shield society" and endorsed the approach outlined in that report.

10. The Expert Group agreed to continue to meet annually on the margins of the session of the Scientific and Technical Subcommittee and to use teleconferences or other means to engage with each other intersessionally. Over the coming year, the Expert Group intended, as its priority task, to continue its work assessing the impact of geomagnetically induced currents on electrical power grids. Members of the Expert Group would seek to actively engage with national critical infrastructure protection agencies and national and international electrical power distribution organizations to be able to better understand, characterize and ultimately examine steps to mitigate space weather damage to that critical infrastructure.

11. The Subcommittee noted that, alongside the meeting of the Expert Group on Space Weather, a space weather workshop had been organized. The Workshop provided background information for reviewing the current space weather activities in member States and related national and international organizations. That enabled the Expert Group to assess the role of those organizations in the global space weather effort, with the aim of promoting coordination and communication among them.

12. The Subcommittee expressed appreciation for the United Nations Programme on Space Applications and its Basic Space Science Initiative, under which space weather activities were conducted. In that regard, the Subcommittee noted with appreciation the outcomes of the United Nations/Japan Workshop on Space Weather held in Fukuoka, Japan, from 2 to 6 March 2015, as contained in the report A/AC.105/1096, in particular the work of the International Space Weather Initiative (ISWI) steering committee to address data policy and usage for the benefit of international community. The Subcommittee noted that that steering committee had held its annual meeting on 19 February 2016, on the margins of the current session of the Subcommittee.

13. The Subcommittee noted the holding of several space weather workshops at the international, regional and national levels that demonstrated capabilities in space weather research, such as the international workshop on space weather and Earth's surface phenomena, held in Ota, Nigeria, from 11 to 15 May 2015. Furthermore, the Subcommittee noted that the Korean Space Weather Center would host the fourth Asia Oceania Space Weather Alliance conference, in November 2016.